SOURCES OF DIOXIN IN THE PRRI AREA

Prepared By:
TIERRA SOLUTIONS, INC.

September 4, 2002

Alliance

APPENDIX B

Exhibits For:

ALLIANCE CHEMICAL INC.

September 4, 2002

932740003

B1

932740004

CORPS OF ENGINEERS, U. S. ARMY
SUPERVISOR OF NEW YORK HARBOR
111 EAST 16TH STREET
NEW YORK, N. Y. 10003

IN REPLY REFER TO

NANSL
Case No. 65-294

11 January 1966

Alliance Color & Chemical Company
33 Avenue P
Newark, New Jersey

Gentlemen:

The Supervisor of New York Harbor is charged by the Congress of the United States with the responsibility of preventing obstruction or pollution of the navigable waters of New York Harbor or its tributaries.

On several occasions, commencing on 26 June 1965, and subsequent to that date, a discoloration has been observed in the tidal waters of Newark Bay adjacent to the Archer Daniels Midland Company's bulkhead located at 400 Doremus Avenue, Newark, New Jersey. Samples of the discolored tidal waters were obtained on each occasion and when tested disclosed they contained an acidic content with a pH factor in excess of allowable tolerance. Investigations disclosed that the materials, classified as a pollutant and a contravention of Federal Statutes (U.S.C. Title 33, Section 407), were discharging from a flume in the bulkhead of aforementioned property. The flume was covered by a flapper type covering which operated on an inshore to outfall velocity flow pressure principle. Continuation of the investigation disclosed that at least a portion of the pollutant originated at your facility and had been deposited into an earthen ditch, maintained as a mosquito control ditch by the Essex County Mosquito Extermination Commission, which traverses various other company owned properties and deposits its contents into aforementioned

flume. Samples obtained on 28 June 1965 from your plant facilities and immediately adjacent thereto, were analysed by the United States Customs Laboratory. The analysis report received indicates compatability as to content between the materials found in the tidal waters of Newark Bay and those stored and discharged from your facilities.

During our most recent inspection, conducted on 7 December 1965, acidic liquefied materials were again detected being deposited from the same flume into Newark Bay. Samples obtained from the terminus of the flume, at various locales along the mosquito control ditch and in the immediate vicinity of your plant facilities, when tested, all recorded a high acidic content. While inspecting the area three clay pipes, discharging liquid, were observed on your property. Samples of discharge from each ~~each~~ all of these pipes were obtained and when tested disclosed they all contained a prohibited acidic content.

Under the provisions of Federal Statutes (U.S.C. Title 33, Section 407), it is unlawful to deposit, or cause, or permit to be deposited, material of any kind in any place where the material shall be liable to be carried to and deposited in any navigable water of the United States. Violators of this Statute are liable to prosecution.

Mr. Charles P. Motta, your Plant Superintendent, was contacted on 28 June and 7 December 1965 and informed of the violations herein cited.

Immediate steps should be taken to insure no prohibited materials, of any kind, are deposited at any place, where such materials may be deposited in Newark Bay.

NANSL 11 January 1966
Case No. 65-294
Alliance Color & Chemical Co.

A reinspection will be conducted to insure compliance with cited Federal Statute.

Very truly yours,

F. R. ULRICH
Major, Military Police Corps
Assistant Supervisor of
New York Harbor

B2

January 20, 1966

F. R. Ulrich, Major, Military Police Corps
Assistant Supervisor of New York Harbor
Corps of Engineers, U. S. Army
111 East 16th Street
New York, New York 10003

Dear Major Ulrich:

Reference: NAVSL - Case No. 65-294

This will acknowledge your letter of 11 January 1966 and provide you with a remedy report. We appreciate your bringing this situation to our attention, and want you to know that both your investigations did, in fact, receive our careful and complete attention.

The June 1965 event was traced to a leak in a pit wall. Normal subsequent repair work failed to convince us that we had effected a long-term repair, and so to fully remedy this situation, a new enlarged acid collection system has been constructed and is now in service. We would not expect any repetition of the 28 June 1965 events.

The acidic materials disclosed in your December 1965 inspection were traced to a malfunctioning collection pump. This was restored to service promptly. New inspection and maintenance schedules were instituted and careful follow-up has indicated that the collection system is performing satisfactorily.

We welcome a re-inspection and look forward to your inspector's next visit, so that we may show him our facility properly operating.

.....continued.....

Meantime, Major Ulrich, please be assured that you and your department will have our fullest cooperation and know that we understand the need to prevent pollution of New York Harbor waters.

Sincerely,

ALLIANCE COLOR AND CHEMICAL CO.

Frank W. May
General Manager

FWMiao

cc Mr. S
CPAlf → CMSu → WHH → FWM

B3

PASSAIC VALLEY SEWERAGE COMMISSIONERS
790 BROAD STREET
NEWARK, N. J. 07102

R.D.C.

December 18, 1969

Pfister Chemical Inc.
Ridgefield, New Jersey 07657

Attention: Mr. Judson H. Merl, Plant Engineer

Dear Mr. Merl;

A sample taken from your Newark plant of your discharge to Plum Creek on December 10, 1969, was found to be flammable and had a explosimeter reading of 80 per cent. This is a dangerous sample and will not be allowed to be discharged into the sewer when you have completed your connection.

Please determine the source of this material so that it may be isolated from the material you intend to put in the Newark Sewer.

Very truly yours,

PASSAIC VALLEY SEWERAGE COMMISSIONERS

S. A. Lubetkin,
Chief Engineer

SAL:mr

c.c. to: Commrs. McMahon,
Gordon,
Cuccinello
Perrapato
Biber
Attorney, T. Durkin, Jr.
Messrs. Goldberg
Barcellona,
Cuccinello

Certified Mail

B4

932740013

TO Jud Mecsl | AT

SUBJECT "Flammable" material in sewer discharge. | DATE 12-24-69

The material that Lubetkin refers to in his letter cannot be verified without seeing the sample. We have a number of flammable materials in our plant. More than likely it is xylol from the dianisidine process. We attempt to recover all possible xylol fro the process but occasionally some will probably escape into the sewer. (AS IT SOMETIMES HAPPENS AT RIDGEFIELD.)

DUPLICATE SIGNED

DATE | SIGNED

Rediform 45 469

SEND PARTS 1 AND 3 WITH CARBONS INTACT.
PART 3 WILL BE RETURNED WITH REPLY.

DETACH AND FILE FOR FOLLOW-UP

B5

932740015

March 21, 1972

Mr. Sam Friscia
Director of Public Works
City Hall
920 Broad Street
Newark, New Jersey 07102

Dear Mr. Friscia:

I would like to call to your attention a surface water condition that exists around our chemical plant on Avenue P (Ironbound Section) that has caused our plant to shutdown in the past and now threatens to close our door again.

The problem is this: Our plant is surrounded by a drainage ditch (commonly referred to as Plum Creek) which collects run-off water from the Turnpike and surrounding properties and discharges into the bay. We are completely isolated from this creek, i.e., we do not discharge any water whatsoever into this creek, yet whenever this creek backs up the overflow empties into our plant resulting in emergency conditions which have often resulted in water damages to our stock and at times complete plant shutdowns. The shutdown causes a loss of production and business and results in unemployment for all our workers.

The only reason that Plum Creek backs up is that there are obstructions inhibiting the discharge of water to the bay. We have found that there are two areas where obstructions occur. (1) On the property of Revere Smelting where Plum Creek turns east and passes under a dirt roadway, and (2) under Avenue P. I have called the Department of Sewers on these occasions and most times they have tried to clear away the obstruction and let the creek subside, but on other occasions the response by the Department of Sewers has been delayed by equipment availability, manpower availability, the elements, or other reasons beyond my knowledge and as a result the condition previously described at our plant occurred. At this writing we have had a pending flooding condition existing at our plant since February 28th (over 3 weeks) with no apparent attempt to alleviate the same by the Department of Sewers dispite at least seven (7) calls to their office.

I see no legitimate reason why our plant must continually face this flooding problem year in and year out when a solution is obvious - install a large obstruction-free (closed) passageway for the water to flow from the turnpike to the eastern side of Avenue P.

Another continuing effect of the flooding is that our plant waste water that is normally discharged into the Avenue P sewer system is pre-treated prior to entering the system. The extra heavy load of water from the creek pouring into our treatment facility has caused our treatment plant to become overloaded and at times unable to handle the flooding conditions.

I am quite anxious to learn what efforts are being taken by your department to remedy the above described situation. The company and the union would by appreciative of your efforts to see the above problem eliminated once and for all.

Very truly yours,

RICHARD D. LEONARD
Plant Manager

RDL:me

cc: Mr. Roger Altero
Department of Sewers
Broad Street
Newark, New Jersey

Mr. Al Zach
Chief Engineer
Department of Public Works
920 Broad Street
Newark, New Jersey

B6

March 27, 1972

Mr. Edwin L. Barnhart
Hydroscience Inc.
363 Old Hook Road
Westwood, New Jersey 07675

BBF000006

Dear Mr. Barnhart:

On March 23, 1972 we received a letter and questionaire from the Passaic Valley Sewerage Commissioners (a copy of which is attached) which must be completed and returned by April 23, 1972. I have filled out Pages 1 & 2 and need your help with Pages 3 & 4. The data taken during your 1969 survey should provide most of the answers to these questions.

To bring you up to date on what has transpired since your survey the following is a description of our discharge system:

> Our shallow plant sewers connect to a retention pond. The overflow from this pond flows through a concrete pit containing an agitator and the discharge from an Alkali treatment tank. A pH probe in the pit electronically meters alkali (ammonia or caustic) to the pit on demand to maintain the pH of the sanitary sewerage at a pH of approximately 6.0.

Our product line has remained relatively constant since your survey with the exception that we have discontinued the use of xylol as a solvent (a raw material which sometimes managed to get into our waste stream). Our storm sewer receives only rain and surface water run-offs.

If you have any questions or areas where information may be incomplete please contact me at your earliest convenience.

Very truly yours,

Richard D. Leonard
Plant Manager

$250. max.	4-28-72	4-11-72	Production	R. D. Leonard

HYDROSCIENCE INC.

363 Broad Avenue, Westwood, New Jersey Attn: Mr. Tim Sullivan

REQUISITION/PURCHASE ORDER

A SUBSIDIARY OF PFISTER CHEMICAL INC.

ALLIANCE CHEMICAL INC.

33 AVENUE P, NEWARK, NEW JERSEY 07105

P. A-7112

THIS NUMBER MUST APPEAR ON ALL PACKAGES, DELIVERY SLIPS AND INVOICES.

☐ EXEMPTION REGISTRATION NO. 221-427-406

☐ RETURNABLE DRUMS TO BE BILLED BY MEMO ONLY

☐ THIS IS AN ORIGINAL ORDER - PLEASE ACKNOWLEDGE

☒ CONFIRMATION

TO

DATE	RECEIVED BY
4-11-72	Tim Sullivan
SHIP ATTENTION OF	
R. D. Leonard	

DO NOT MAKE PARTIAL SHIPMENTS OF ANY ITEM WITHOUT AUTHORIZATION

DELIVERIES WILL BE RECEIVED 8 A.M. TO 3:30 P.M. MON. THROUGH FRI. INCLUSIVE

DATE OF ORDER	TERMS	F.O.B.	SHIP VIA	DELIVERY RECEIVED BY

ITEM NO	QUANTITY	DESCRIPTION	CODE	UNIT PRICE
	1	Survey study of Alliance Plant Discharge to		not to
		gather sufficient data to satisfactorily		exceed
		complete questionaire from Passaic Valley		$250.00
		Sewerage Commissioners (dated 3-23-72).		
	picked up samples 4/28/72 -- T. Sullivan.			
		7-10 days.		
	5/3			

ACCEPTANCE

This Purchase Order sets forth the entire agreement between Buyer and Seller and can be changed, modified or added to only by written agreement and is governed by the terms and conditions stated herein and on the reverse hereof.

This order is not valid if over $5,000.00 in total value.

REQUISITIONER'S COPY

MAIL ALL INQUIRIES TO

(201) 344-2344

932740021

HYDROSCIENCE, INC.
Consultants in Water Pollution Control
263 OLD HOOK ROAD
WESTWOOD, NEW JERSEY 07675
201-666-1600

DONALD J. O'CONNOR
EDWIN L. BARNHART
JOHN L. MANCINI

Associates
THOMAS J. MULLIGAN
JOHN P. ST. JOHN
ROBERT V. THOMANN

May 4, 1972

Mr. Richard Leonard
Alliance Chemical Co., Inc.
33 Avenue P
Newark, New Jersey 07105

Dear Mr. Leonard:

In accordance with your request, samples from Alliance Chemical, Inc., Newark, New Jersey, were analyzed in order to complete the Passaic Valley Sewerage Commission Survey. These tests were performed on the Industrial Waste only as the only flow entering the storm sewer is storm water. The results are as follows:

pH	6.3
Turbidity	1100 JCU
Total Solids	16,988 mg/l
Total Volatile Solids	4,164 mg/l
Suspended Solids	720 mg/l
Volatile Suspended Solids	475 mg/l
Oil & Grease	406 mg/l
Chlorides	5,150 mg/l
COD	7,160 mg/l
BOD	2,692 mg/l
TOC	1,193 mg/l
Zn	500 mg/l

I hope these results will be of assistance for the completion of the questionnaire. If our office can be of further assistance, please call us.

Very truly yours,

Timothy Sullivan

Timothy Sullivan

TS:bjl

PASSAIC VALLEY SEWERAGE COMMISSIONERS
[illegible] Broad Street
Newark, N. J. 07102

Date: May 10, 1972

Plant Ref. No. PAEC446

WASTE EFFLUENT SURVEY

(For Industries Served by the Passaic Valley Sewerage Commissioners)

Plant Name: Alliance Chemical Inc.

Address: 33 Avenue P, Newark, New Jersey Zip 07105

Person and Title to whom any further inquiries should be directed:
Richard D. Leonard - Plant Manager

Phone No.: 344-2344

Number of Employees: 45

Number of Working Days Per Week: Normally 5

Number of Shifts Per Day: 3

Area of Property: ..... Acres, or approx. 150,000 Sq. Ft.

Type of Industry and 4 digit U. S. Standard Industrial Classification No.:
Chemical - SIC 2815

Finished Product(s): Dyestuffs, Intermediates for Textile Industry

Average Production: Confidential

Raw Materials Used: Amine type bases - too numerous to itemize

Brief Description of Operations: Batch Chemical Processes - Clarification, Filtration, Sulfonation, Nitrations, Chlorinations, Diazatations, Condensations, Simple mixing and blending, drying, etc.

932740025

Water received in *Gallons* (Note: multiply cu. ft. x 7.48)

Purchased water in 1971 from: CITY OF NEWARK

1st Quarter 7,451,600

2nd Quarter 8,031,300

3rd Quarter 7,455,300

4th Quarter 6,290,700

Total Purchased 1971: 29,228,900 gallons

Well Water

1st Quarter none

2nd Quarter

3rd Quarter

4th Quarter

Total well water received in 1971: none

River Water

1st Quarter none

2nd Quarter

3rd Quarter

4th Quarter

Total river water taken in in 1971: none

TOTAL OF ALL WATER RECEIVED IN 1971: 29,228,900 gallons

Water Use in 1971:

Water to Product (include evaporated and lost water): 29,228,900 gallons

Water to Sanitary Sewer: approx. 29,200,000 gallons

Water to Storm Sewer, River or Ditch: surface and storm water - cannot estimate

TOTAL WATER USE IN 1971: 29,228,900

Name of River, Stream, or Tributary, and location of storm sewer or ditch outlet to river, stream, or tributary: Sewer system tied in to Avenue P sewer system.

932740026

ANSWER THE FOLLOWING QUESTIONS ONLY IF THE PLANT WASTE INCLUDES WASTE ATTRIBUTABLE TO INDUSTRIAL OPERATIONS

(Note: Analyses should be based on a 24-hour composite sample)

Characteristics of Plant Waste discharged to sanitary or combined sewer, after treatment if any. Indicate units of measure where applicable (e.g. Mg/l).

a) pH: 6.3 b) Turbidity: 1100 JCU

c) Temperature: ambient d) Radioactive? Yes ..... No x

e) Solids Concentration:

1) Total Solids 16,988 mg/l Volatile 4,164 mg/l Mineral —

2) Suspended Solids 720 mg/l Volatile 475 mg/l Mineral —

f) Oil and Grease Concentration:

1) Floatable Oils 406 mg/l

2) Emulsified Oils .....

g) Chlorides 5,150 mg/l

h) Chemical Oxygen Demand (C.O.D.): 7,160 mg/l

i) 5-day Bio-chemical Oxygen Demand (B.O.D.): 2,692 mg/l

j) Total organic carbon (T.O.C.): 1,193 mg/l

k) Metallic Ions—Name and concentration (Important—list each metal in waste, e.g., chromium hex. and triv. Antimony, Lead. Mercury, Copper, Vanadium, Nickel; give concentration and total daily discharge of each metal.)

Zn 500 mg/l

l) Toxic Material—Name and concentration e.g., cyanide salts, etc.): none

m) Solvents—Name and concentration: none

n) Resins—Name and concentration (Lacquers, Varnishes, Synthetics): none

o) Date and time span of sample April 18-20, 1972 48 Hourly samples

Explain hours, method of discharge of waste to Sanitary Sewer and peak rate of flow, e.g., (continuing for 8 hours per day, 5 days per week at 100 gal./day rate) (batch twice a day for 20 minutes at 100 gal./min.) (Continuous 24 hours steady or with peaks at 2 P.M., peak rate 3 M.G.D.) etc.

Continuous 24 hours per day discharge - rate will vary but cannot predict peaks - Average rate is about 100 gpm

Characteristics of Plant Discharge to Storm Sewer, River, or Ditch, after treatment if any. Indicate units of measure where applicable (e.g., Mg/l).

a) pH: ONLY STORM WATER GOES TO STORM SEWER b) Turbidity: .....

c) Temperature: ..... d) Radioactive? Yes ..... No .....

e) Solids Concentration:

1) Total Solids ..... Volatile ..... Mineral .....

2) Suspended Solids ..... Volatile ..... Mineral .....

f) Oil and Grease Concentration:

1) Floatable Oils .....

2) Emulsified Oils .....

g) Chlorides .....

h) Chemical Oxygen Demand (C.O.D.): .....

i) 5-day Bio-chemical Oxygen Demand (B.O.D.): .....

j) Total Organic Carbon (T.O.C.): .....

k) Metallic Ions—Name and concentration (Important—list each metal in waste, e.g., chromium hex. and triv. Antimony. Lead, Mercury. Copper, Vanadium, Nickel; give concentration and total daily discharge of each metal.):

.....

.....

l) Toxic Material—Name and concentration (e.g., cyanide salts, etc.): .....

.....

m) Solvents—Name and concentration: .....

.....

n) Resins—Name and concentration (Lacquers, Varnishes, Synthetics): .....

.....

o) Date and time span of sample: .....

Do you pretreat any waste before discharge? .....

If so, describe process and disposal of residue removed: .....

.....

.....

.....

Certification of Laboratory doing sampling and making analyses shall be given. Procedures shall be those shown in the 13th edition of Standard Methods for the Examination of Water and Wastewater. where applicable. If no procedure is applicable, the laboratory is to describe method and procedure used in analyses.

Richard Leman

.....

Signature and title of person preparing report

Plant Manager

932740028

A SUBSIDIARY OF PFISTER CHEMICAL INC

[illegible] AVENUE P NEWARK, N. J. 07105

June 21, 1972

Mr. Sam Friscia
Director of Public Works
City Hall
920 Broad Street
Newark, New Jersey 07102

Dear Mr. Friscia:

Since the latter part of February our plant has been under constant threat of being over run with flood waters from the drainage ditch (Plum Creek) that boarders our property. A letter to you (March 21, 1972) and a visit by yourself to our plant (May 18, 1972) has not given me any satisfaction that our problem will be rectified. I have been very patient todate, but at this writing my patience has run out.

I was promised a letter on May 18th stating your intentions on the above matter. Five weeks later there has still been no letter. I was told that the construction to aleviate the water condition would be completed in June or July 1972. Todate it has not started.

I am responsible for the production activities of this Division and responsible to take steps to keep production going especially when I can see impending disaster on the horizon. In dealing through your office with Messrs. Al Zack, Roger Altero and Van Reiper I have no confidence that any action will be taken in time to prevent this disaster.

This letter should reach your desk on Friday June 23rd. Should I not receive any correspondence by June 26th, outlining the positive steps the city will take to correct the problem caused by their poor design I shall have to take my cause to higher authorities. I am hoping that the latter will not be necessary.

Very truly yours,

Richard D. Leonard
Plant Manager

June 27, 1972

The Honorable Kenneth Gibson
The Mayor of the City of Newark
Newark City Hall
920 Broad Street
Newark, New Jersey 07102

Dear Mr. Mayor:

I am appealing to your office for assistance to alleviate a problem that has been plaguing our plant for many years - the threat of being inundated by waters backing up into our plant from a drainage ditch (Plum Creek) that borders our property. I am writing to you because my previous contacts with the Department of Sewers and the Director of Public Works and his Staff has only resulted in empty promises and no action.

During the rainy season of 1971 we were forced to shutdown our entire operation three times and sustained considerable property damage and loss of wages to our 50 employees. The cause of these problems is a recently installed, underdesigned drainage pipe under Avenue P. This pipe is now blocked and water from Plum Creek cannot escape to the bay and has no other route, but to back up into our plant.

I have been promised relief by the above departments on over 25 different occasions since February 1972, but todate nothing has been done to make our situation any less critical. At this writing the Plum Creek has overflowed its boundaries and is only a few feet from running over into our property.

It is my responsibility to keep this division operating and I am appealing to your office to see that proper steps are taken to ease our situation.

Very truly yours,

Richard D. Leonard
Plant Manager

ALLIANCE COLOR AND CHEMICAL COMPANY
DIVISION OF PFISTER CHEMICAL COMPANY
309-327 AVE P
NEWARK, ESSEX COUNTY, NEW JERSEY 07105
EPA # NJD045794971

GENERAL INFORMATION AND SITE HISTORY

Alliance Color and Chemical Company is located on 8.4 acres of land in Newark, Essex County, New Jersey. The area is in a heavily industrialized section of the city, with the closest residences approximately 1 mile from the site. The population within 2 miles of Alliance is approximately 49,300.

To the west the site is bordered by a tidal basin and the New Jersey Turnpike, to the east the site is bounded by Avenue P. The south side of the site is bounded by property belonging to the Newark Housing Authority (this property was an unregulated dump site that is being remediated), to the north the site is bounded by Conrail tracks and McGredor Street.

Alliance Chemical is located on Block 5020, Lots 3, 6, 8, 12 and 136. The lots are owned as follows: Lot 3-Pfister Chemical Inc., Linden Avenue, Ridgefield Park, New Jersey; Lots 6 and 136-Pfister Urban Renewal, Route 46, Ridgefield Park, New Jersey; Lot 8-Plum Point Realty Corporation, 33 Avenue P, Newark, New Jersey 07105; and Lot 12-Alliance Chemical and Color Inc., 33 Avenue P, Newark, New Jersey.

The site was first developed between 1945 and 1946 by the Sun Chemical Company. Sun Chemical's operations at the site are unknown. Further, with the exception of several Newark Fire Department Storage permits, information on chemicals used at the site are unknown.

In 1965 Alliance Color and Chemical purchased the site from Sun Chemical and began manufacturing speciality organics and pigment intermediates. In 1966 Alliance Color and Chemical was purchased by Pfister Chemical of Ridgefield Park, New Jersey, who retained the name Alliance.

SITE OPERATIONS OF CONCERN

Alliance Chemical manufactures organic chemicals, specifically dye and pigment intermediates and diazo compounds. Some of the chemicals used as raw materials by Alliance include paradichlorobenzene, aniline, acetic anhydride and beta-naphthol.

Sun Chemical and Alliance Chemical both used open unlined trenches to run liquid wastes through to an unlined lagoon. A review of aerial photographs and NJDEP files revealed that the lagoon was filled in without a plan being filed with the NJDEP. A photo interpretation was conducted on September 22, 1989 by Jim Mortimer of the NJDEP, Division of Fish, Game and Wildlife. That interpretation concluded the following: 1) the trench first appears in 1961 and remains visible in both 1971 and 1972 photos, 2) in 1974 the lagoon appears dry and the trench drained and 3) in 1978 the lagoon appears to contain water and the trench appears to be running into both the lagoon and the tidal basin. On January 7, 1980 an explosion and fire destroyed a building at Alliance during the first attempt to manufacture "Diazo 28". On January 10, 1980, NJDEP Representatives inspected Alliance due to the fire and explosion. During the inspection the lagoon was physically

observed and documented (Attachment A-1 & A-2).

As previously stated, Alliance Chemical manufactures intermediates for the textile and photographic industries. Alliance mixes muriatic acid, water and organic chemical reagents in a large vessel. There is a chemical reaction in which the intermediate is synthesized, then filtered and washed. In the synthesis step some material is washed free of product, then filtered and washed again. There are two waste streams from the process. One is a filter cake which is stored in drums and a sludge box, then manifested to a secure landfill in Michigan. The carbon clarification cake located in the waste unit was found to contain cyanide, phenols, ammonia, arsenic, cadmium, chromium, copper, lead, mercury, nickel and selenium (Attachments A-3 & A-4). The second is the waste acidic process water which runs into a neutralization tank.

Alliance's wastewater is treated in an in-ground neutralization tank where it is mixed with ammonia to a pH of about 7 then discharged into the sewer system of the Passaic Valley Sewerage Commission (PVSC). Alliance operates under PVSC Permit No. 20401080 which allows discharges with a pH factor of between 5 and 10.5. According to Anthony Gammaro of PVSC, Alliance was in violation of their discharge permit twice in 1988. According to Mr. Gammaro, on September 27, 1988 the PVSC monitoring equipment at Alliance was inspected by representatives of the PVSC. That inspection revealed that Alliance had been in violation of their permit by discharging wastewater with a pH of less than 5 from August 4, 1988 until September 6, 1988 for 35.25 hours or 4.4% of the monitored time. An inspection on October 27, 1988 revealed that Alliance had again been in violation from September 6, 1988 until October 6, 1988 for 10.5 hours or 1.45% of the total monitored time by discharging wastewater with a pH of greater than 10.5. These are the only two violations on file with the PVSC.

A RCRA Part A application was filed in November 1980 with the U.S. Environmental Protection Agency (USEPA) by Alliance. At that time Alliance listed their waste activity as treatment in tanks (T01). In May 1983 Alliance requested removal from treatment/storage/disposal (TSD) facility status. Alliance made this request following a Notice of Violation issued by the NJDEP, Division of Waste Management in 1982 for failing to submit an annual report in accordance with the Solid Waste Management Act (Attachment A-7). Alliance maintains that the only waste generated is 100,000 gallons of wastewater per day which undergoes "elementary neutralization" on site prior to discharge to the sewer. On May 18, 1988 Alliance was removed from TSD status (Attachments A-10 & A-11).

On August 3, 1983 an inspection of Alliance was conducted by the Industrial Investigation Unit of the NJDEP. That inspection revealed the disappearance of the lagoon and raised a question of dioxin contamination at the site. The question of possible dioxin contamination arose from the manufacture of Class II dioxin precursor chemicals 2-chloro-1,4-diethoxy-5-nitrobenzene and 5-chloro-2,4-dimethoxy aniline (Attachments A-12, A-13 & A-14).

In 1985, the E.C. Jordan Company of Portland, Maine was selected by the NJDEP to conduct a dioxin sampling episode at Alliance. The sampling was conducted on May 10, 1985. The analysis of the samples collected revealed no traces of 2,3,7,8-TCDD (Attachment A-15).

On May 21, 1986 the NJDEP, Division of Water Resources informed Alliance that a NJDPES permit was not required since their neutralization tank qualified as an Industrial Wastewater Management Facility (IWMF) under N.J.A.C. 7:26-9.1 (c) 12 and 12.1 (b) 3 (Attachment A-16, A-17 & A-18).

On June 29, 1989 the NUS Corporation completed a Preliminary Assessment of Alliance for the USEPA. The report raises concern over the former trench and lagoon areas of the site (see Attachment A-19 & A-20).

On October 3, 1989 representatives of the NJDEP, DHWM, BPA conducted a Pre-sampling Assessment of Alliance Chemical. At that time, Mr. Arthur Gusmano, Vice President of Alliance, stated that there had never been a lagoon on site. When shown a photo of the lagoon, Mr. Gusmano stated that the matter of the lagoon had been taken care of at a meeting in December 1980 between Alliance, the NJDEP and the USEPA in New York. A search of NJDEP and USEPA files has produced no such records, further, Alliance has been unable to produce any records of the meeting.

A sampling episode was conducted on October 19, 1989 by representatives of the NJDEP, DHWM, Bureau of Planning and Assessment. The analytical results of this episode show high levels of soil contamination which will be addressed later in this report.

Alliance Chemical has 16 bulk above ground storage tanks. The tanks are as follows:

Three 3,000 gallon #4 fuel oil tanks,
One 10,000 gallon #4 fuel oil tank,
One 4,000 gallon 98% sulfuric acid tank,
One 3,000 gallon 50% sulfuric acid tank,
One 15,000 gallon 38% hydrochloric acid tank,
One 3,000 gallon 38% hydrochloric acid tank,
One 10,000 gallon 38% hydrochloric acid tank,
One 4,800 gallon 50% zinc chloride solution tank,
One 7,600 gallon 50% caustic (sodium hydroxide solution) tank,
Two 9,000 gallon 20% aqua ammonia tanks,
One 5,600 gallon methanol tank,
One 4,000 gallon isopropyl alcohol tank,
One 5,600 gallon morpholine tank.

Alliance officials, in their contingency plan, maintain that there is a sufficient dike at each tank to contain a spill.

GROUNDWATER ROUTE

In the area of Alliance Chemical the Brunswick Formation is at a depth of approximately 55 feet. Its exact thickness is not known, however, it may be as thick as 5,000 feet. The unconsolidated zone between the water table and the bedrock is composed of Pleistocene deposits. These deposits, which are 55 feet thick in the area of the site, overlie the Brunswick Formation through practically all of the Newark area. The deposits consist of unconsolidated till and stratified glacial drift. The till is an unstratified, heterogeneous mixture of clay, boulders and sand. The drift is composed of sand and gravel.

The aquifer of concern is the Newark Group Brunswick Shale. Most wells are tapped into the extremely fractured upper portion of the aquifer, which is under modified water table conditions. The depth to the water table is 7 to 9.5 feet from the land surface. Groundwater is generally free to move in any direction and seek the level determined by factors affecting recharge and discharge. The least permeable continuous intervening stratum between the ground surface and the aquifer of concern is the silty clay with a permeability of 10^{-5} to 10^{-7} cm/sec.

There are no monitoring wells on site that have been reported to the NJDEP. The only monitoring well at Alliance was installed by Louis Berger and Associates, Inc. of 100 Halsted Street, East Orange, New Jersey. This well, MW-19E P#2613785-2, was installed during an ECRA study of the site by Berger for the New Jersey Turnpike Authority expansion project (Attachment A-21 & A-22). The results, if any, from this well remain unknown since the New Jersey Turnpike Authority will not release its findings to NJDEP at this time.

Alliance Chemical has no industrial wells, but rather uses city water which is supplied by five impound reservoirs in Pequannock and one shared reservoir in Wanaque. There are no potable wells within 4 miles of the site, however, there are a number of industrial wells in the area. These wells are contaminated, according to Paul Butler, Environmental Engineer for the City of Newark.

There is a high potential for groundwater contamination due to the site's past and present activities. High contaminant levels have been detected in soil samples from the facility which may have leached into groundwater due to the high water table.

SURFACE WATER ROUTE

The nearest downslope surface water is the Passaic River, which is located approximately 0.5 mile from Alliance. There is, however, a tidal basin located at the rear of Alliance Chemical which flows in an easterly direction. Although this basin is located upslope of the processing area it should be noted that the facility slope is less than 1%. As was previously stated, an interpretation of aerial photos was conducted. During this interpretation, a trench was observed running from Alliance into the tidal basin. This trench ran from the processing area, parallel with another trench. One trench then went into the lagoon while the other ran into the tidal basin. This basin is located on property belonging to the New Jersey Turnpike Authority and is less than 100 feet from the Alliance property.

The designated use of the Passaic River is SE3. SE3 waters include secondary contact recreation, as well as commercial and industrial uses. There are no surface water intakes within 4 miles of the site. There are no known endangered species habitats within 1 mile of Alliance.

The potential for contamination of the tidal basin via runoff is high. Soil sampling at surface level has revealed high contaminant levels and Alliance is located on a 100 year flood plain. Should heavy rain fall at the site, surface contamination could be easily washed into the basin. There are no known episodes of sampling of the tidal basin.

AIR ROUTE

Alliance Chemical has no known processes which discharge to air. Alliance was issued a Notice of Prosecution on June 6, 1977 for emitting visible smoke from a standby boiler (Attachment B-11).

Due to the materials used and stored at Alliance, the potential for release to air is high.

SOIL

There have been several episodes of soil sampling at Alliance. The first episode was conducted by the NJDEP on November 25, 1980. No parameters are given in the report (Attachment C-2). At that time, two samples were collected in the area of the lagoon. Results of analysis by Stablex-Reutter Inc. showed xylene at 1,100 ppb, ethylbenzene at 298 ppb and Aroclor 1254 at levels of 27,000 and 23,000 ppb. The high PCB levels were later corrected to 2,700 and 2,300 ppb (Attachments C-4 & C-7).

A second sampling event took place on December 10, 1980. At that time the NJDEP, Division of Hazardous Waste Management collected six samples of sludge from the acid pit area. There are no reports addressing parameters for detection nor is there a sampling plan. The samples were taken to the NJDEP laboratory set up at the Goose Farm site in Plumstead Township, Ocean County, New Jersey. There are no records of an analysis being performed on these samples (Attachments C-10, C-11 & C-12).

A sampling episode was conducted on April 22, 1981 by of the NJDEP. At that time samples were collected from the trench at the rear of the property. There are no records of analysis or where these samples were sent (Attachments C-15, C-16 & C-17).

On May 10, 1985, the E.C. Jordan Company of Portland, Maine conducted a sampling episode at Alliance Chemical under a contract with the New Jersey Department of Environmental Protection. At that time a total of nine samples were collected for 2,3,7,8-TCDD analysis. Seven of the samples were collected at the soil surface, including one duplicate, and two were collected in the sub-surface. The samples were sent to Environmental Testing and Certification Corporation of Edison, New Jersey for analysis. The analysis took place on May 26, 1985 and no 2,3,7,8-TCDD was detected (Attachment A-15).

A Pre-sampling Assessment by representatives of the NJDEP, DHWM, BPA on October 3, 1989 revealed numerous areas of soil staining throughout the site. During the inspection, puddles were observed with a sheen at several locations. Further, concrete areas around the wastewater trenches were stained with multi-colored substances. The area where the former lagoon was located was void of vegetation. The soil contained numerous pieces of building material, such as bricks. It is believed that some of this fill came from the building which was destroyed in the January 1980 explosion and fire.

A sampling episode was conducted by representatives of NJDEP, Division of Hazardous Waste Management, Bureau of Planning and Assessment on October

19, 1989. At that time eleven samples were collected for Target Compound List plus 30 peak analysis (TCL + 30). Additionally, five samples were collected for 2,3,7,8-TCDD analysis and three others for Petroleum Hydrocarbon (PHC) analysis. Results of analysis show elevated levels of volatiles and semi-volatile organics as well as high PHCs. No 2,3,7,8-TCDD was detected (Tables 1 & 2). One soil sample had a pH of 2 while another had a pH of 5.

DIRECT CONTACT

The potential for direct contact by the public is low. Alliance has a 7 foot chain link fence around the facility. Further, the site is operational 24 hours a day and is in a non-residential area. The potential for employee contact is high due to site operations, storage and surface level contaminants.

FIRE AND EXPLOSION

On January 7, 1980 an explosion and fire took place at Alliance. The fire was discovered by the Newark Fire Department Arson Squad. Seven workers were injured in the incident, four of them were treated and released while the remaining three required hospitalization. The Newark Fire Department listed this incident as accidental. Records obtained from the U.S. Labor Department, Occupational Safety and Health Administration (OSHA) showed the fire to have been caused mostly by negligence. According to an OSHA report issued on February 14, 1980 Alliance was attempting to manufacture "Diazo 28." The report points out that, "reactivity or instability was not determined", "thermal tests were not taken", "no pilot plant batches were run" and "reaction heats were not determined". The report further points out that "chemical operators were not informed of the hazard that may have been encountered during manufacturing of Diazo 28". Finally, the report points out that the wrong reaction vessel was in use at the time (Attachments D-5 & D-6).

Additional incidents of employee injury and improper fire training are documented in a 1983 OSHA report (Attachment D-11).

No fire inspection has been conducted at Alliance in over two years. According to Captain Vince Ladd of the Newark Fire Department Inspection Bureau the reason for the lack of inspections is due to the lack of inspectors. Captain Ladd did point out that Alliance had not registered with the State Bureau of Fire Safety in according with State law.

The potential for fire and explosion at Alliance remains high due to materials stored there and the lack of personnel training.

ADDITIONAL CONSIDERATIONS

There is limited vegetation at Alliance, vegetation that is present is stressed. There is no known damage to fauna. Damage to off-site property is unknown. Alliance's past practice of discharging into the tidal basin at the rear of their property may have lead to off-site contamination.

ENFORCEMENT ACTIONS

Alliance was cited by the NJDEP, DHWM, Bureau of Metro Enforcement for the following violations on May 29, 1987: 1) failure to document training 2) failure to submit current lay out of facility, 3) failed to document fire inspections 4) contingency plan failed to describe actions in emergencies 5) failed to describe agreements with authorities 6) failed to have address and phone number of emergency personnel and 7) no emergency equipment.

Further, on May 29, 1987 Alliance was cited by the NJDEP, DHWM, Bureau of Metro Enforcement for: 1) spill of a hazardous substance and 2) non-notification of the spill to the Department (Attachments E-1 & E-2). This action was taken as a result of an ammonia spill.

SUMMARY OF SAMPLING DATA

1.	Sampling date:	May 10, 1985
	Sampled by:	E.C. Jordan Company P.O. Box 7050, DTS Portland, Maine 04112
	Samples:	Nine soil samples were collected
	Laboratory:	Environmental Testing and Certification Corporation 284 Raritan Center Parkway Edison, New Jersey 08837 Certification #12257
	Parameters:	2,3,7,8-TCDD
	Sample description:	1. All samples were collected at 0 to 12 inches. 2. Samples were collected at the rear of the site in the area of the former lagoon as well as in the area of the neutralization tank.
	Contaminants detected:	No 2,3,7,8-TCDD was detected.
	QA/QC:	There were no records that could be found regarding any QA/QC review being conducted.
	File location:	NJDEP/DHWM/Metro Enforcement West Orange, New Jersey
2.	Sampling date:	October 19, 1989
	Sampled by:	NJDEP, Bureau of Planning and Assessment Division of Hazardous Waste Management
	Samples:	A total of eleven soil samples were collected, one of which was a duplicate.
A.	Laboratory:	Envirodyne Engineering 1908 Innerbelt Business Center St. Louis, MO 63114-5700 Certification # Not certified
	Parameters:	All samples were analyzed for Target Compound List + 30 peaks and five additional samples for 2,3,7,8-TCDD
B.	Laboratory:	Analytikem 28 Springdale Road Cherry Hill, New Jersey 08003 Certification # 04012
	Parameters:	Three samples for Petroleum Hydrocarbons
	Sample description:	1. All samples were collected at depths from 0 to 6 feet. 2. Samples were collected at the rear of the site in the area of the former lagoon and trench. Additional samples were collected from several piles of soil on site.
	Contaminants detected:	See Tables # 1 and 2
	QA/QC:	Both quality assurance and quality control reports are pending from BEMQA. NJDEP Chain-of-Custody forms were used for all samples collected and a 2, 3, 7, 8-TCDD proficiency sample was included.

File location: New Jersey Dept. of Environmental Protection
Division of Hazardous Waste Management
Bureau of Planning and Assessment
65 Prospect Street
Trenton, New Jersey

PRIORITY DESIGNATION

This site is assigned a medium priority designation, based on available information and the potential for groundwater, surface water and air contamination.

RECOMMENDATIONS/CONCLUSIONS

Due to conditions at Alliance Chemical it is recommended that the New Jersey Department of Environmental Protection take action to have Alliance begin soil remediation. Additionally, the closing of the lagoon should be pursued.

It is recommended that additional samples be collected at Alliance to determine contamination levels in other areas of the site. Samples should be collected from the front part of the property (facing Avenue P). This area was the site of a former junkyard. Additional samples should be collected at depth from the area of the former lagoon to determine other contaminants present, their levels and vertical extent at depth of contamination.

Samples of both soil and water should be collected from the area of the tidal basin, this area may have been the scene of an unpermitted discharge from a wastewater trench.

It is further recommended that groundwater monitoring be initiated. During the October 19, 1989 sampling episode conducted by representatives of the NJDEP, DHWM, BPA water was encountered at a depth of approximately 5 feet. Soil contaminants may be leaching into groundwater due to the high water table.

Submitted by:

Jerry O'Donnell
HSMS IV
Bureau of Planning and Assessment
January 24, 1990

Description of Wastes

Currently the only hazardous waste generated at Alliance is the acidic process waste water (hazardous waste #D002) from Building #7, which enters the neutralization tank located northwest of Building #6 (see diagram).

The acid wastes are dilute aqueous wastes containing mostly hydrochloric acid in the 0-1 pH range. The pH of this dilute aqueous stream is adjusted continuously to between pH 5 and pH 10.5 and monitored continuously. The average flow of process waste water is 100,000 gal./day. Neutralization is accomplished with 24% ammonium hydroxide solution from a 10,000 gallon hold tank containing about 1 1/2 weeks supply of neutralizing solution. In addition, there is a 6,000 gallon back-up tank or about a one week supply.

Personal contact with dilute inorganic acid should be avoided. If the skin is splashed, immediately wash with large amounts of water. If dilute acid gets into eyes, immediately wash for 5 minutes with large amounts of water and see a physician.

Although the acidic process waste water is the only hazardous waste currently produced at Alliance, hazardous wastes could be produced as a result of spillage of the following raw materials:

Aqua Ammonia
50% Caustic (Sodium Hydroxide Solution)
#4 Fuel Oil
Isopropyl Alcohol
Methanol (Hazardous Waste #U154)
Muriatic Acid
98% Sulfuric Acid
50% Zinc Chloride
Morpholine

Spillage of these materials may result in a waste which is a listed hazardous waste or a waste which is hazardous because it exhibits any of the characteristics of hazardous waste (ignitability, corrosivity, reactivity or EP Toxicity) identified in NJAC 7:26-8.9 - NJAC 7:26-8.12.

B13

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**ADMITTED IN MA. ONLY

January 28, 1994

1994 JAN 31 PM 1:42
ERRD SITE COMPLIANCE BRANCH
ENVIRONMENTAL PROTECTION AGENCY, REGION II

FEDERAL EXPRESS

Mr. Lance R. Richman, P.G.
Emergency & Remedial Response Division
U. S. Environmental Protection Agency
26 Federal Plaza, Room 13-100
New York, NY 10278

Re - Request For Information
Diamond Alkali Superfund Site,
Passaic River Study Area

Dear Mr. Richman:

This letter refers to the Request for Information that was sent to Alliance Chemical, Inc. ("Alliance") dated December 16, 1993 with respect to the Diamond Alkali Superfund Site, Passaic River Study. Alliance has received an extension of time until January 28, 1994 to respond to the Request for Information.

Enclosed are the responses of Alliance. Alliance reserves the right to supplement its answers if additional information becomes available.

Please be advised that Roger Huth is no longer with the company and Richard E. Braun, Vice President, Operations, should be the contact for the company. Inquiries and correspondence from attorneys should be directed to this firm.

Very truly yours,

Fredi L. Pearlmutter

FLP/bjw
Enclosures
cc: Richard E. Braun
Patricia Hick (w.o. encl.)

932740045

CERTIFICATION OF ANSWERS TO REQUEST FOR INFORMATION

State of New Jersey

County of Bergen :

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for Information) and all documents submitted herewith, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete, and that all documents submitted herewith are complete and authentic unless otherwise indicated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I am also aware that my company is under a continuing obligation to supplement its response to EPA's Request for Information if any additional information relevant to the matters addressed in EPA's Request for Information or the company's response thereto should become known or available to the company.

RICHARD E. BRAUN
NAME (print or type)

VICE PRESIDENT OPERATIONS
TITLE (print or type)

Richard E Braun
SIGNATURE

Sworn to before me this
27 day of January , 1994

Geraldine Stempinski
Notary Public

GERALDINE M STEMPINSKI
Notary Public of New Jersey
My Commission Expires Jan. 22, 1995

932740046

RESPONSE OF ALLIANCE CHEMICAL, INC.
TO
REQUEST FOR INFORMATION

Re: EPA Request for Information Dated December 16, 1993 Under 42 U.S.C. §9801 et seq. Diamond Alkali Superfund Site, Passaic River Study

General Objection

Alliance Chemical, Inc. ("Alliance") is a wholly-owned subsidiary of Pfister Chemical, Inc. ("Pfister"). In 1965, Pfister acquired the stock of Alliance Chemical Co., Alliance Color & Chemical Co. and Plum Point Realty Corp., which owned and/or operated the site located at 309-327 Avenue P in Newark, NJ (the "Acquisition"). In June 1968, Alliance Chemical Co. and Plum Point Realty were merged into Alliance Color and Chemical and the name was changed to Alliance Chemical, Inc.

Alliance can and will respond to the questionnaire relating to the site located at 33 Avenue P in Newark, New Jersey for the time period subsequent to the Acquisition in 1965. Although Alliance will provide answers to the questionnaire with respect to information in its possession prior to that time period, Alliance cannot answer and is not answering on behalf of any of the predecessor corporations.

EPA describes the chemicals 2-chloro-1, 4-diethoxy-5-nitro benzene and 5-chloro-2, 4-dimetoxyaniline as hazardous substances. These substances are not defined as hazardous substances pursuant to §101.14 of CERCLA, 42 U.S.C. §9601 (14),

or §1004 of RCRA, 42 U.S.C. §6903, and therefore Alliance objects to their characterization by EPA as hazardous substances. Nevertheless, where EPA has requested information specifically with respect to those compounds, Alliance is providing information on the basis that these substances are not hazardous substances.

QUESTIONS

1) During what years did your company operate at the facility designated above?

1965-Present.

2) Does your company have a permit or permits issued pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. §6901 et seq. If your company has an EPA Identification Number, state it in your answer to this question.

Alliance's EPA ID Number is: NJD 045 794 791.

3) Did your company receive, utilize, manufacture, discharge, release or dispose of any materials containing the following substances:

Subject to the General Objection, Alliance responds as follows:

2,3,7,8 tetrachlorodibenzo-p-dioxin or other dioxin compounds	no	
2-chloro-1,4-diethoxy-5-nitro benzene		yes
5-chloro-2,4-dimethoxyaniline		yes

2-chloro-1,4-diethoxy-5-nitro benzene was manufactured at Alliance from 1965 to 1985.

5-chloro-2,4-dimethoxyaniline was manufactured at Alliance from 1976 until 1987.

4a) Provide a description of the manufacturing processes for which all hazardous substances, including, but not limited to, the substances listed in response to item (3), were a product or

byproduct.

Alliance objects to this question as overly broad and unduly burdensome and seeks information which is not relevant. There may be some hazardous substances generated as by-products which are unknown.

Subject to these objections and the General Objection:

2-Chloro-1,4-diethoxy-5-nitro benzene, which is neither a CERCLA hazardous substance nor a RCRA hazardous waste, was manufactured by nitrating 2-chloro-1,4-diethoxy benzene in an aqueous system with 67% nitric acid. The product was isolated by filtration from the aqueous system and further reacted with morpholine to make a 2,5-diethoxy-4-morpholino nitro benzenene. The aqueous filtrate from the nitration was neutralized and combined with other process effluent prior to discharge. Both starting material and product are water insoluble.

5-Chloro-2,4-dimethoxyaniline, which is neither a CERCLA hazardous substance nor a RCRA hazardous waste, was manufactured from 5-nitro-1,2,4-trichlorobenzene. First, 5-chloro-2,4-dimethoxy nitrobenzene was made by the addition of a mixture of sodium hydroxide and methanol to 5-nitro-1,2,4-trichlorobenzene in methanol at reflux. The methanol was then distilled off and recovered for reuse and a mixture of sodium sulfide and sulfur (polysulfide) was added at reflux to reduce the nitro compound to the final product which, after cooling, was isolated by filtration from the aqueous reaction mixture. The filtrate was neutralized and discharged to the Passaic Valley Sewerage

Commission ("PVSC"), a POTW, along with other process effluent. The product was purified by dissolving in aqueous hydrochloric acid adding carbon for decolorization, clarifying and precipitating with caustic to a neutral pH. The filtrate was discharged to our effluent system which goes to PVSC. The carbon clarification cakes were disposed of in a chemically secure landfill with other clarification press cakes.

2-Methoxy-5-nitro benzenamine was manufactured from 1965 to around 1980 in the same manner as 5-chloro-2,4-dimethoxyaniline except the starting material was 2,4-dinitro chlorobenzene.

3,3'-Dimethoxy benzidine was manufactured from 1965 to around 1970 starting with o-nitro anisole. An alkaline zinc reduction to the hydrazo compound followed by a benzidine rearrangement produced the desired compound.

3,3'-Dimethyl benzidine was manufactured from 1965 to around 1970 starting with o-nitro toluene. An alkaline zinc reduction to the hydrazo compound followed by a benzidine rearrangement produced the desired compound.

Zinc compounds (manufactured from 1965-1970). Alliance manufactures light-sensitive diazo compounds which are stabilized as the zinc salt. 2-Chloro-1,4-diethoxy-5-nitro benzene described above is condensed with morpholine to yield 2,5-diethoxy-4-morpholino nitro benzene. This compound is then reduced in hydrochloric acid to the amine with zinc dust. The amine is then diazotized with sodium nitrite and the zinc stabilized diazo compound precipitated. The final product is

2,5-diethoxy-4-(4-morpholinyl)-benzenediazonium tetrachlorozincate (2-)(2:1). The dibutoxy compound is manufactured in the same way.

Zinc Carbonate and zinc hydroxide are currently produced as part of Alliance's zinc recovery process where the insoluble zinc compounds are precipitated from the effluent at an alkaline pH with caustic soda or soda ash.

Upon information and belief, some of these compounds may have been manufactured at this facility before Alliance acquired it.

b) During what parts of the manufacturing processes identified in the response to items (4)(a), above, were hazardous substances, including, but not limited to, the substances listed in item (3), generated? Describe the chemical composition of these hazardous substances. For each process, what amount of hazardous substances was generated per volume of finished product? Were these hazardous wastes combined with wastes from other processes? If so, wastes from what processes?

Subject to the General Objection, all of the products listed in 4a) above except for the zinc carbonate, zinc hydroxide and 2-chloro-1,4-diethoxy-5-nitro benzene were purified by dissolving the product in acid, treating the solution with activated carbon to remove color and reprecipitating the product. These carbon clarification press cakes which contained small amounts of product were collected and disposed of as solid waste. In addition, the processes which produced the 3,3'-dimethoxy benzidine and 3,3'-dimethyl benzidine produced a zinc oxide slurry as a by-product from the alkaline zinc reduction. This zinc oxide slurry was recovered and sent out to be recycled.

All carbon clarification press cakes were combined prior to

1988. After 1988, the light-sensitive diazo carbon clarification cakes were kept separate and disposed of as hazardous waste because they contained borderline quantities of cadmium which came from impurities in the zinc which was used for reduction.

See also responses to Questions 7a and 10.

5) Describe the methods of collection, storage, treatment, and disposal of all hazardous substances, including, but not limited to, the substances listed in response to item (3). Include information on the following:

Alliance Chemical objects to this question as overly broad and unduly burdensome and to the extent it requests information with respect to off-site storage, transportation and disposal, the request is not relevant. Subject to these objections and the General Objection, Alliance responds as follows:

a) If hazardous substances were taken off-site by a hauler or transporter, provide the names and addresses of the waste haulers and the disposal site locations.

From 1970 until 1977 all solid waste was hauled off-site by:

D&J Trucking
310-336 Avenue P
Newark, NJ 07105

From 1978 until the present, hazardous waste has been manifested and disposed of pursuant to applicable hazardous waste regulations. See Annual Hazardous Waste Reports and manifests attached.

From 1978 until the present all RCRA non-hazardous clarification press cakes were disposed of at chemically secure landfills by various haulers (see manifests and bills of lading). Alliance discontinued using manifests at the request of NJDEPE

for non-hazardous wastes. Haulers used were:

R&R Sanitation Service
Randolph, NJ 07869
to SCA Chemical Services
Pinewood, SC

Wayne Disposal
49350 N. Service Drive
Belleville, MI 48111

Waste Conversion
2869 Sandstone Drive
Hatfield, PA 19440

b) Describe all storage practices employed by your company with respect to all hazardous substances from the time operations commenced until the present. Include all on-site and off-site storage activities.

Alliance objects to this question to the extent it requests information with respect to off-site storage as irrelevent. Subject to this objection and the General Objection, Alliance responds as follows:

Most of the hazardous substances handled at Alliance over the years are raw materials. All hazardous substances are handled in accordance with applicable federal and state

regulations. Bulk items such as solvents, acids and alkalies are stored in diked tanks. Drum and bagged raw materials are stored in the warehouse or under an outside shed. Products that are classified as hazardous materials are stored in the warehouse, or in a cold room in the warehouse, or in a refrigerated container. Hazardous clarification press cakes or waste oil are stored in designated staging areas in the warehouse. From 1965-1970, a by-product stream of zinc oxide-water slurry recovered from the 3,3'-dimethoxy benzidine and 3,3'-dimethyl benzidine process was stored in 2 areas prior to shipping out for recycling. The first area was three agitated tanks adjacent to the manufacturing area and the second was a concrete lined above ground storage bin.

6a) For process waste waters generated at the facility which contained any hazardous substances, including, but not limited to, the substances listed in response to item (3), did the waste stream connect to a sanitary sewer and if so, during what years? Were they treated before being discharged to the sanitary sewer and if so, how? If the waste waters were not discharged to the sanitary sewer, where did they discharge and during what years?

Subject to the General Objection, Alliance responds as follows:

The process effluent waters discharged from the facility were not hazardous under RCRA because they were not a characteristic waste, nor did they come from a listed process; nor were there listed materials dumped into the effluent. Therefore, the effluent stream was not hazardous. The process effluent was connected to the PVSC sanitary sewer system from 1970 on. From 1965 to 1970, the process effluent discharged to a drainage ditch (Plum Creek) which flowed to the Passaic River.

Prior to discharge the effluent was neutralized.

b) For floor drains or other disposal drains at the facility, did the waste stream connect to a sanitary sewer and if so, during what years? Were they treated before being discharged to the sanitary sewers and if so, how? If the floor drains or other disposal drains were not discharged to the sanitary sewer, where did they discharge and during what years.

Floor drains were combined with process effluent and treated as in a) above.

c) Did any storm sewers, catch basins or lagoons exist at any time at the facility and if so during what years? If catch basins or lagoons existed, were they lined or unlined? Where was the discharge of any of these structures released and during what years? Was this discharge treated before its release and if so, how and during what years?

Since Alliance has operated the facility, storm sewers and catch basins have always existed at the facility. Most of the discharges are combined with the process effluent and treated as in a) above. An unlined lagoon existed from 1965 until 1979 and was part of the effluent system which was neutralized prior to discharge. From 1965 until 1970, as part of the effluent system, the lagoon discharged to the drainage ditch as explained in a) above. From 1970 until 1979 the lagoon discharged to the sanitary sewer system (PVSC).

d) Please supply diagrams of any waste water collection or disposal systems on the property.

See attached diagrams showing the lagoon discharging to the drainage ditch prior to 1970, and to PVSC from 1970 until 1979, and the present day system.

7a) For each hazardous substance, including, but not limited to, the substances listed in item (3), identified in the response to item (4), above, provide the total amount generated during the operation of the facility on an annual basis.

Alliance objects to this question as vague, overly broad and unduly burdensome. There may be some hazardous substances generated as by-products which are unknown. Alliance further objects to the characterization of its products as hazardous substances generated during operation of the facility.

Subject to these objections and the General Objection, Alliance responds as follows: (All numbers approximate on an average annual basis)

2-Chloro-1,4-diethoxy-5-nitro benzene		(product) '65-'85	130,000 lbs/yr
5-Chloro-2,4-dimethoxyaniline		(product) '76-'87	15,000 lbs/yr
2-Methoxy-5-nitro benzenamine		(product) '65-'85	80,000 lbs/yr
3,3'-Dimethoxy benzidine		(product) '65-'70	200,000 lbs/yr
3,3'-Dimethyl benzidine		(product) '65-'70	20,000 lbs/yr
Zinc Compounds (light-sensitiv diazos)		(product) '65-'90	105,000 lbs/yr
Zinc Compounds (Fast Color Salts)		(product) '65-'87	160,000 lbs/yr
Zinc Carbonate-zinc hydroxide	1992-on	25	tons/year
Zinc oxide slurry	1965-1971	120	tons/year
Non-hazardous press cakes	1965-on	50	tons/year
Hazardous press cakes	1989-1991	125	tons/year
Waste oil		5-10	drums/year

See attached documents.

b) Was any hazardous substance, including, but not limited to, the substances listed in response to item (3), identified in responses to item (4), above, disposed of in the Passaic River or discharged to the Passaic River? If yes, estimate the amount of material discharged to or disposed of in the Passaic River and the frequency with which this discharge or disposal occurred.

During the years 1965-1970, when Alliance's effluent, after

being neutralized, was discharged to the drainage ditch (Plum Creek) which leads to the Passaic River, there were occasional leaks and excursions in pH which resulted in acidic effluent being discharged. The amount and frequency of material discharged is unknown. After 1970, all effluent was discharged to the POTW (PVSC). See attached documentation.

8) Please identify any leaks or spills that occurred at the facility during which or as a result of which any hazardous substances, including, but not limited to, the substances listed in response to item (3), was released on the property of the facility or discharged to the Passaic River. Provide any documents or information relating to these incidents.

Subject to the General Objection, Alliance responds as follows:

During the period 1966 to 1970, there were some minor discharges and pH excursions in the neutralized effluent going to the drainage ditch (Plum Creek) which leads to the Passaic River. See the accompanying documentation. In 1970, when Alliance hooked up to PVSC, there were no further discharges of effluent to the drainage ditch.

9) Provide the date of any leaks or spills of any hazardous substances, including, but not limited to, the substances listed in response to item (3), on the property or into the waste water discharge system at the facility. Provide details of the ultimate disposal of any contaminated materials.

Subject to the General Objection, Alliance responds as follows:

In 1987, there was a small spill of No. 4 fuel oil on to the ground by the fuel oil tank. The contaminated earth was removed

and disposed of as hazardous waste. See accompanying documentation.

10) Provide a copy of each document which relates to the generation, purchase, use, handling, hauling, and/or disposal of all hazardous substances, including, but not limited to, the substances listed in response to item (3). If you are unable to provide a copy of any document, then identify the document by describing the nature of the document (e.g. letter, file memo, invoice, inventory form, billing record, hazardous waste manifest, etc.). Describe the relevant information contained therein. Identify by name and job title the person who prepared the document. If the document is not readily available, state where it is stored, maintained, or why it is unavailable.

Alliance objects to this question as overly broad and unduly burdensome and to the extent it requests information with respect to off-site handling, transportation and disposal, the request is not relevant. Subject to these objections and the General Objection, Alliance responds as follows:

See accompanying documents.

11) Provide all other documents pertaining to the results of any analyses of groundwater, surface water, ambient air, and any other environmental media performed at the facility.

Alliance objects to this question as overly broad and unduly burdensome. Subject to these objections and the General Objection, Alliance responds as follows:

Alliance has entered into a Memorandum of Agreement ("MOA") with the New Jersey Department of Environmental Protection and Energy to perform a remedial investigation at its facility. No analytical information has yet been obtained under the MOA.

See also attached documentation.

12) Provide the names of all parties who owned or operated the facility during the period from 1940 through the present. Describe the relationship, if any, of each of those parties with your company.

Upon information and belief, Alliance Chemical Co. was founded in 1947, and the company was owned by Harold Rose and Harold Coward. In 1965 Alliance Chemical Co. was acquired by Pfister Chemical, Inc. located in Ridgefield, NJ 07657. Alliance Chemical, Inc. is a wholly-owned subsidiary of Pfister Chemical, Inc. See question 13.

13) Answer the following questions regarding your business or company. In identifying a company that no longer exists, provide all the information requested, except for the agent for service of process. If your company did business under more than one name, list each name.

Corporate matters have been held to be outside the statutory authorization set forth in CERCLA or RCRA. See United States v. Charles George Trucking Co., Inc., 624 F. Supp. 1185 (D. Mass. 1986), aff'd 823 F.2d 685 (1st Cir. 1987). Accordingly, Alliance objects to this question. Subject to this objection and the General Objection, Alliance responds as follows:

a) State the legal name of your company.

Alliance Chemical, Inc.

b) State the name and address of the president or the chairman of the board, or other presiding officers of your company.

Alan R. Bendelius, President
Alliance Chemical, Inc.
Linden Avenue
Ridgefield, NJ

c) Identify the state of incorporation of your company and your company's agent for service of process in the state of incorporation and in New Jersey

State of Incorporation : New Jersey
Agent for Service of Process: Frank Spill
Alliance Chemical, Inc.
Linden Avenue
Ridgefield, NJ 07657

d) Provide a copy of your company's "Certificate of Incorporation" and any amendments thereto.

Alliance has been unable to locate a copy of its Certificate of Incorporation.

e) If your company is a subsidiary or affiliate of another company, or has subsidiaries, or is a successor to another company, identify these related companies. For each related company, describe the relationship to your company; indicate the date and manner in which each relationship was established.

Alliance Chemical, Inc. is a wholly owned subsidiary of

Pfister Chemical, inc.
P.O. Box 15
Ridgefield, NJ 07657

Pfister acquired Alliance in 1965.

f) Identify any predecessor organization and the dates that such company became part of your company.

Alliance Chemical Co.
Alliance Color & Chemical Co.
Plum Point Realty Corp.

The stock of the above three companies was acquired by Pfister Chemical, Inc. in 1965.

g) Identify any other companies which were acquired by your company or merged with your company.

In June 1968, Alliance Chemical Co. and Plum Point Realty were merged into Alliance Color and Chemical, Co. and the name was changed to Alliance Chemical, Inc.

h) Identify the date of incorporation, state of incorporation, agents for service of process in the state of incorporation and New Jersey, and nature of business activity, for each company identified the responses to items (11)(e), (f), and (g), above.

The request with respect to Pfister Chemical is not relevant to the scope of this inquiry. The information with respect to Alliance Chemical Co., Alliance Color & Chemical Co. and Plum Point Realty Corp. is unknown.

i) Identify all previous owners or parent companies, address, and the date change in ownership occurred.

Upon information and belief:

Alliance Chemical Co.
Alliance Color & Chemical Co.
Plum Point Realty Corp.

were previously owned by: Harold Rose and Harold Coward (addresses unknown).

See also answers to Question 13 (f) & (g)

14) Provide the name, address, telephone number, title and occupation of the person(s) answering this "Request for Information" and state whether such person(s) has personal knowledge of the response. In addition, identify each person who assisted in any way in responding to the "Request for Information" and specify the question to which each person assisted in responding.

The following persons have worked together in responding to all questions and have personal knowledge of the responses:

Richard E. Braun
Vice-President, Operations
Alliance Chemical, Inc.
Linden Avenue
Ridgefield, NJ 07657
(201) 945-5400

William Henning
Plant Manager
Alliance Chemical, Inc.
309-327 Avenue P
Newark, NJ 07105

PFISTER

August 8, 2001

Mr. Darryl C. Jennus
Chief, Field Verification Section
Bureau of Discharge Prevention
NJ Department of Environmental Protection
Trenton, NJ 08625-0424

Re: Alliance Chemical Inc., City of Newark, Essex, New Jersey

Dear Mr. Jennus:

Please be advised that Alliance Chemical, Inc., has closed. As of the present the site is undergoing remedial investigation. Site security is being maintained. All storage tanks and pipe lines have been disconnected and cleaned. We would like to extend your staff every courtesy should you wish to conduct field verification of this closure.

Should there be any questions or comments regarding this matter please feel free to contact me (201) 945-5400.

Sincerely yours,

Charles J. Ilsley, Jr.
Manager Environmental Affairs

cc: Mr. Walter Nedick
Principal Environmental Engineer

7000-1530-0003-9277-0613

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Pfister Chemical Inc., Linden Avenue, Ridgefield, New Jersey 07657
(201) 945-5400 • Fax (201) 945-0159 • E-mail: HTTP://www.pfisterchemical.com

PFISTER

RECEIVED
BUREAU OF DISCHARGE PREVENTION
01 AUG 20 PM 3:12

August 17, 2001

Mr. Christopher Lucien
Project Engineer
Bureau of Discharge Prevention
NJ Department of Environmental Protection
Trenton, NJ 08625-0424

Re: Closure Letter, Alliance Chemicals, Newark, NJ

Dear Mr. Lucien:

Please be advised that Alliance Chemical has stopped manufacturing activities at the Newark Location as of July. At present, there are no "Hazardous Substances" in storage at Alliance Chemical. We apologize for the apparent confusion in this report. We initially reported the Walter Nedick because of the up-coming site inspection. We then provided Daryl Jennus a letter which advised that Alliance had closed. Mr. Nedick did however conduct a verification inspection as a result of our notification. Therefore, our notification efforts had the desired results.

Should there be any questions or comments regarding this submission please feel free to contact me (201) 945-5400.

Sincerely yours,

Charles J. Ilsley, Jr.
Manager Environmental Affairs

cc: Walter Nedick

Pfister Chemical Inc., Linden Avenue, Ridgefield, New Jersey 07657
(201) 945-5400 • Fax (201) 945-0159 • E-mail: HTTP://www.pfisterchemical.com

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